

**BOEING**

# **707-720**

*REFERENCE GUIDE D6-40942*



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**BOEING**  
**707-720**  
*REFERENCE GUIDE*  
*D6-40942*

MARCH 1980

INDUSTRIAL RELATIONS-TRAINING  
B-1811

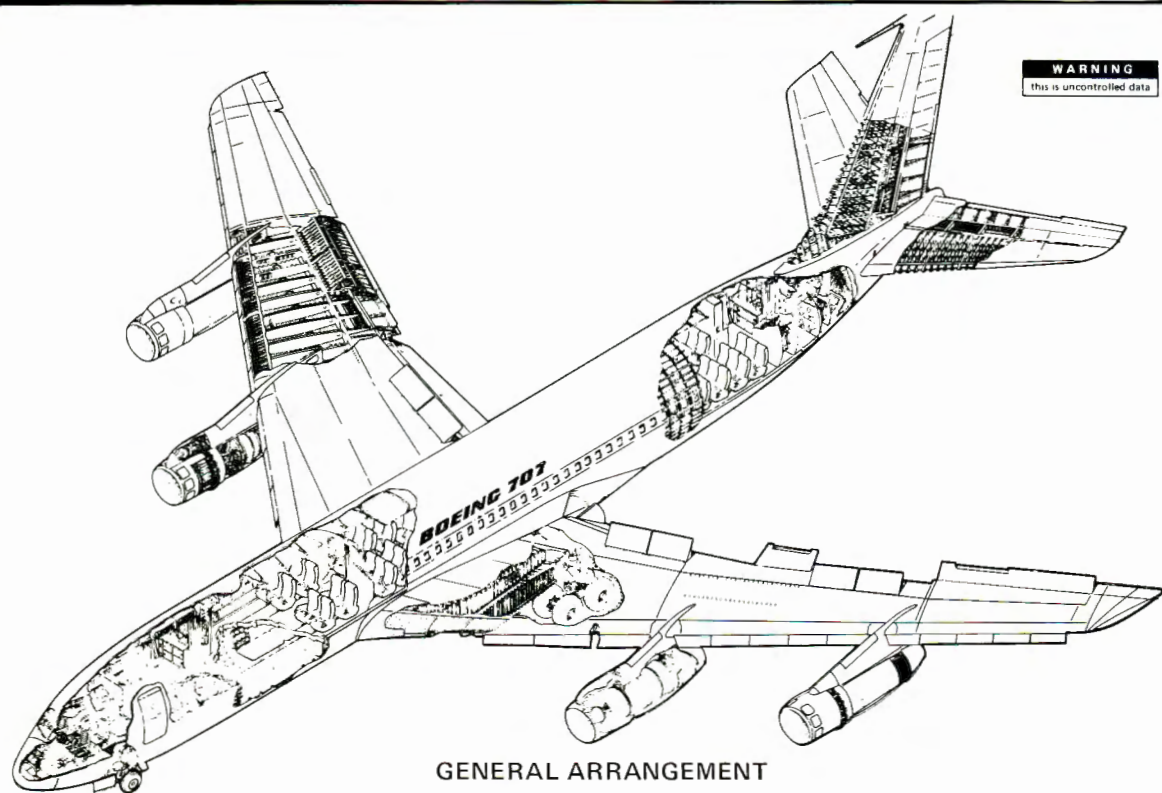
**BOEING** COMMERCIAL AIRPLANE COMPANY

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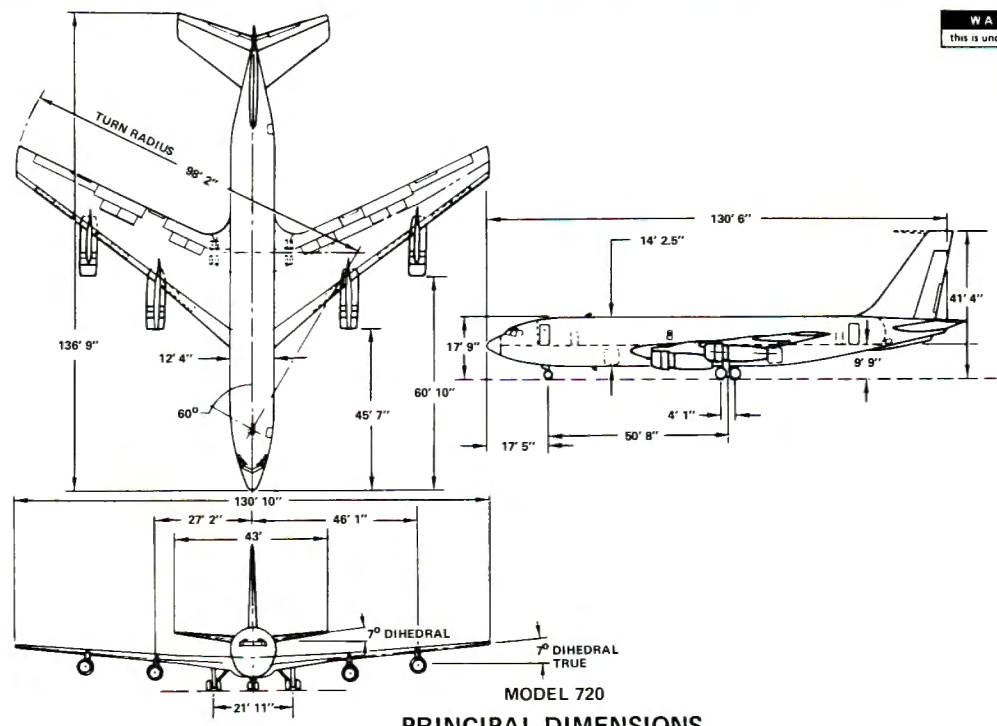
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GENERAL ARRANGEMENT



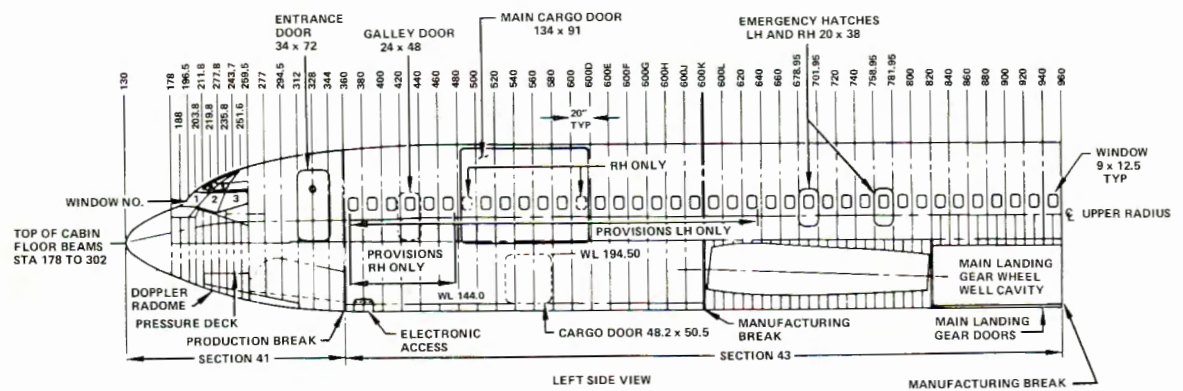
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MODEL 720  
PRINCIPAL DIMENSIONS



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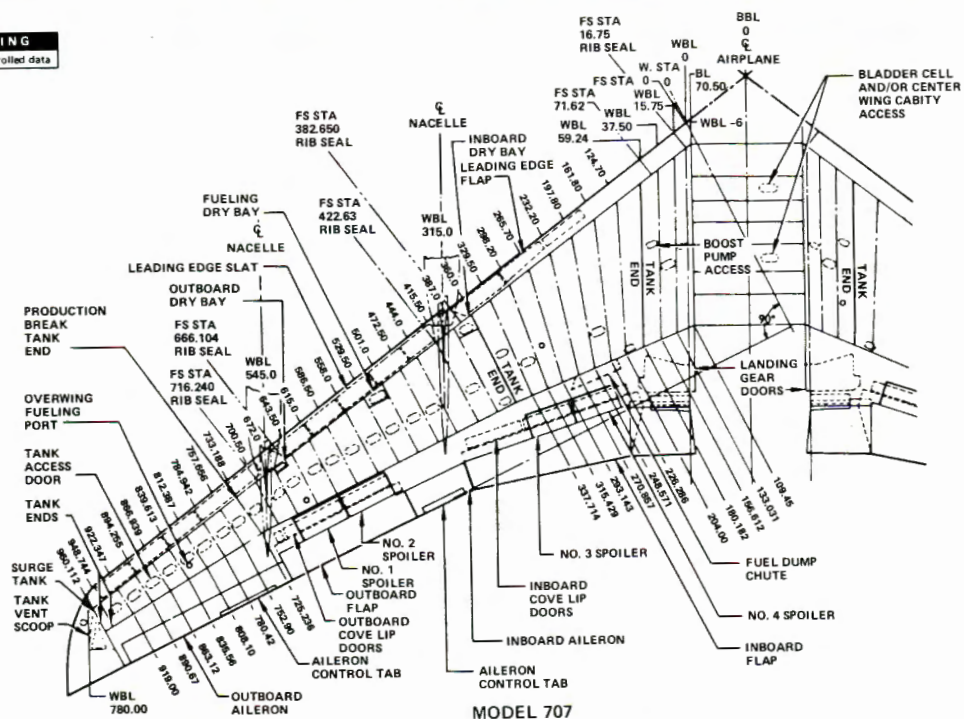


MODEL 707  
BODY CENTERLINE DIAGRAM



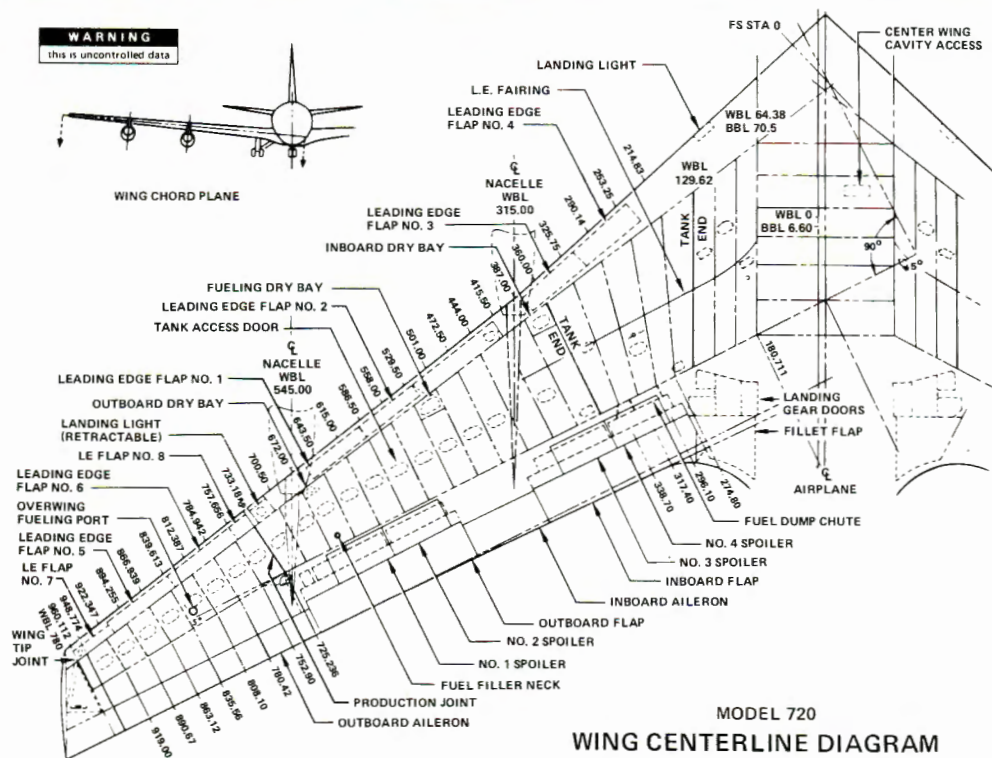


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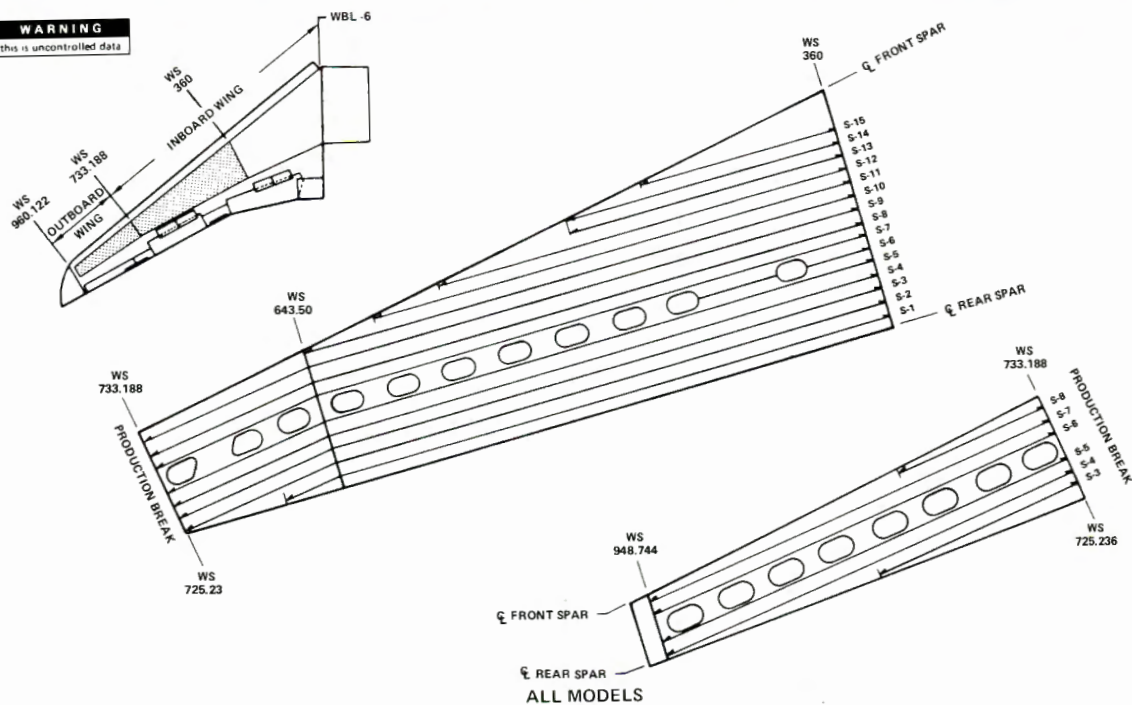


### WING CENTERLINE DIAGRAM

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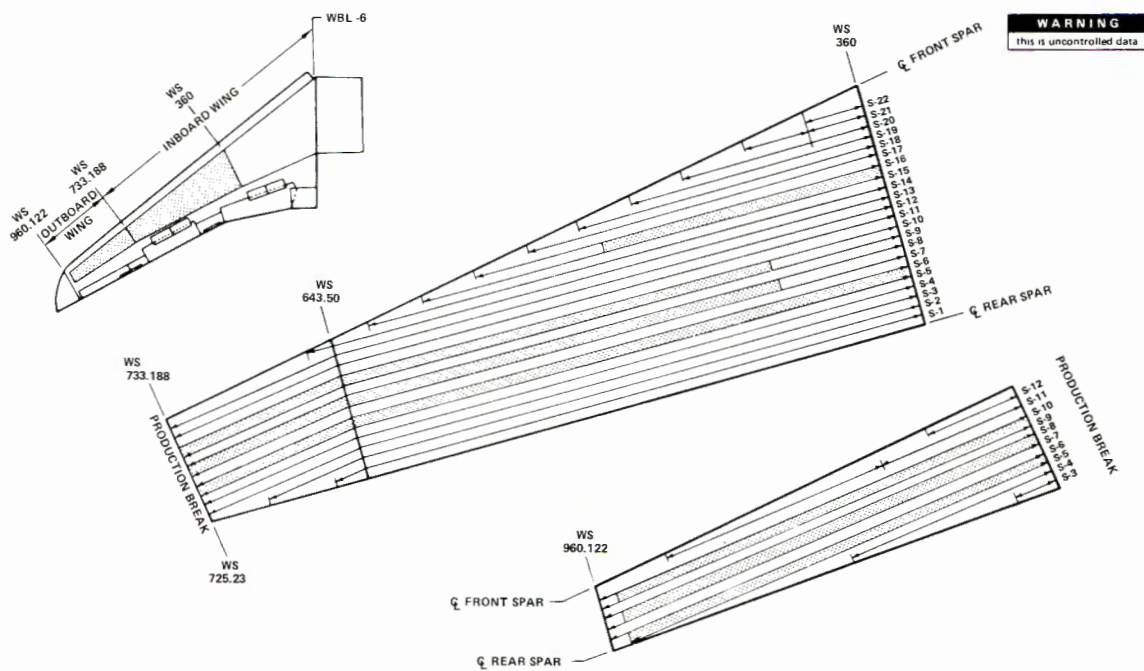


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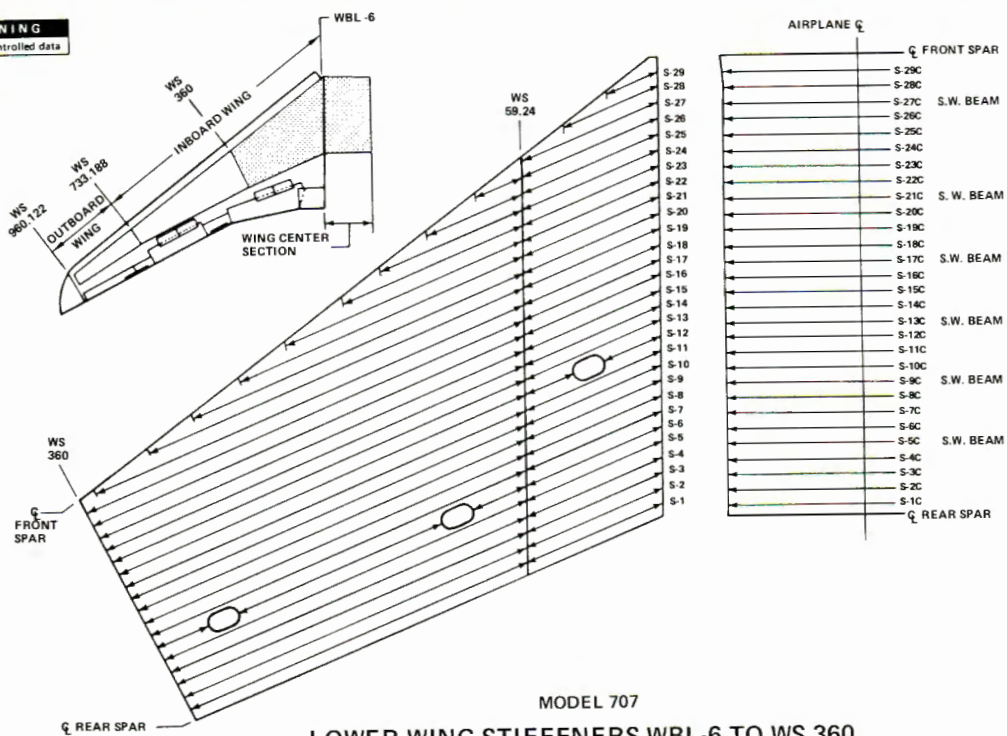
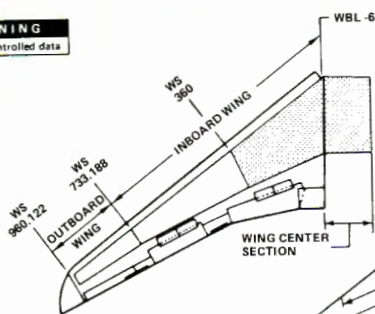


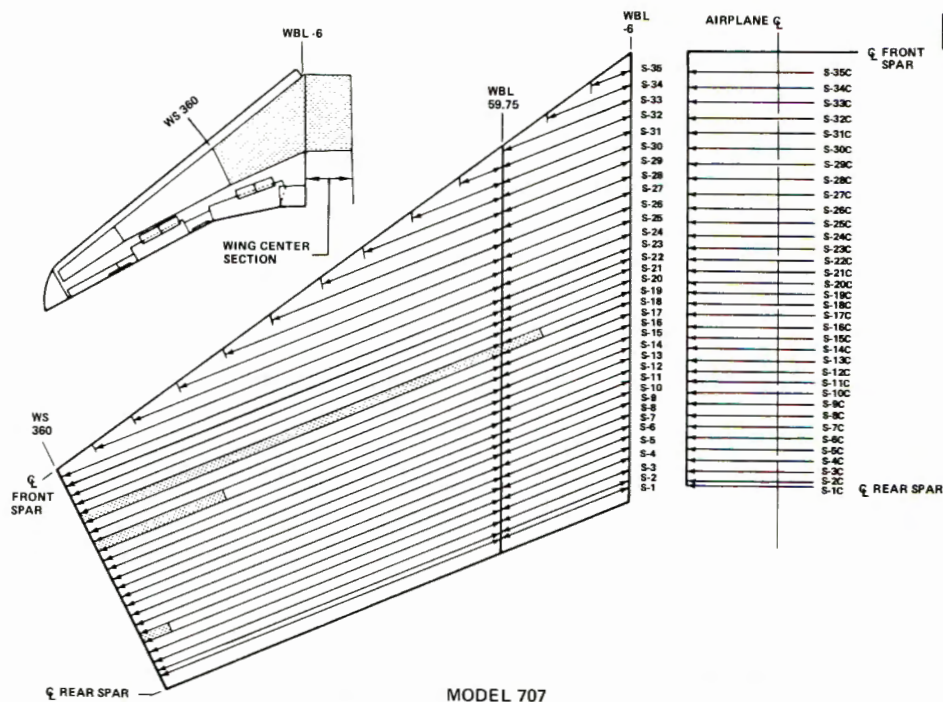
ALL MODELS

# LOWER WING STIFFENERS WS 360 TO WS 984.744



ALL MODELS  
UPPER WING STIFFENERS WS 360 TO WS 960.122

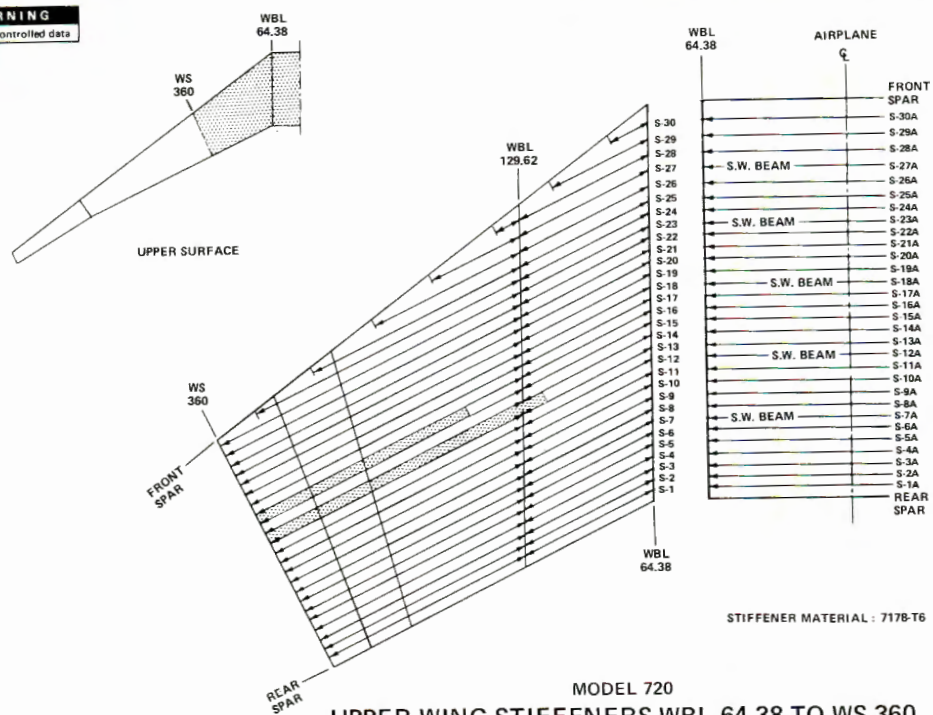




MODEL 707  
UPPER WING STIFFENERS WBL-6 TO WS 360



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CENTERLINE DIAGRAM—  
VERTICAL TAIL  
ALL MODELS

ANGULAR FUNCTIONS

$\epsilon = 36^{\circ} 9' 16.200''$   
 $\beta = 33^{\circ} 47' 45.871''$   
 $\alpha = 24^{\circ} 27' 3.632''$   
 $\gamma = 16^{\circ} 46' 17.133''$   
 $\delta = 6^{\circ} 41' 42.975''$   
 $\theta = 11^{\circ} 55' 20.229''$

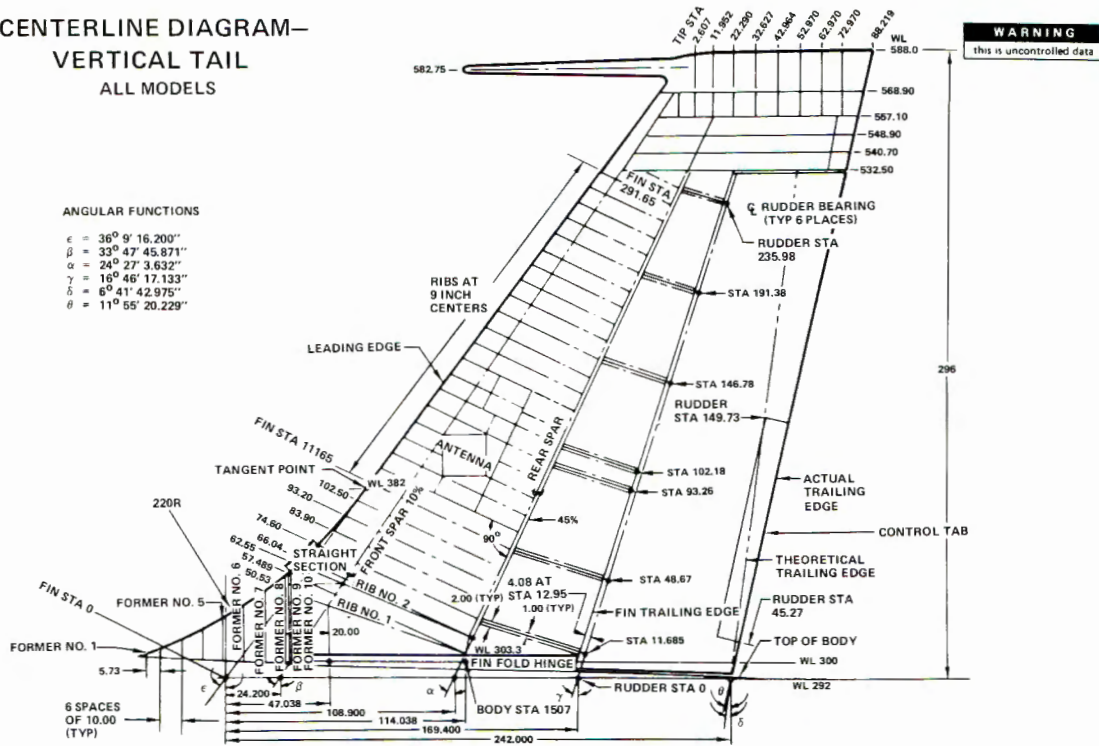
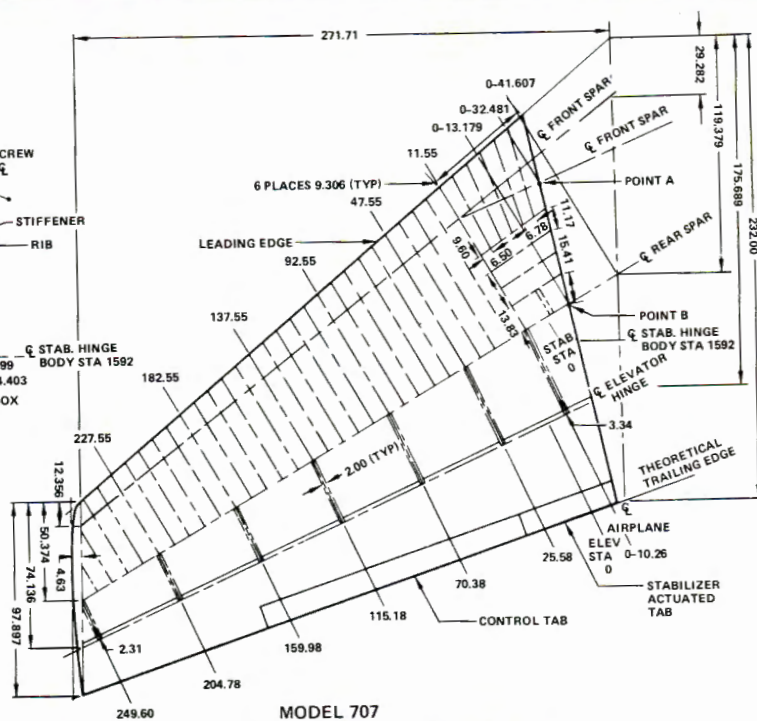
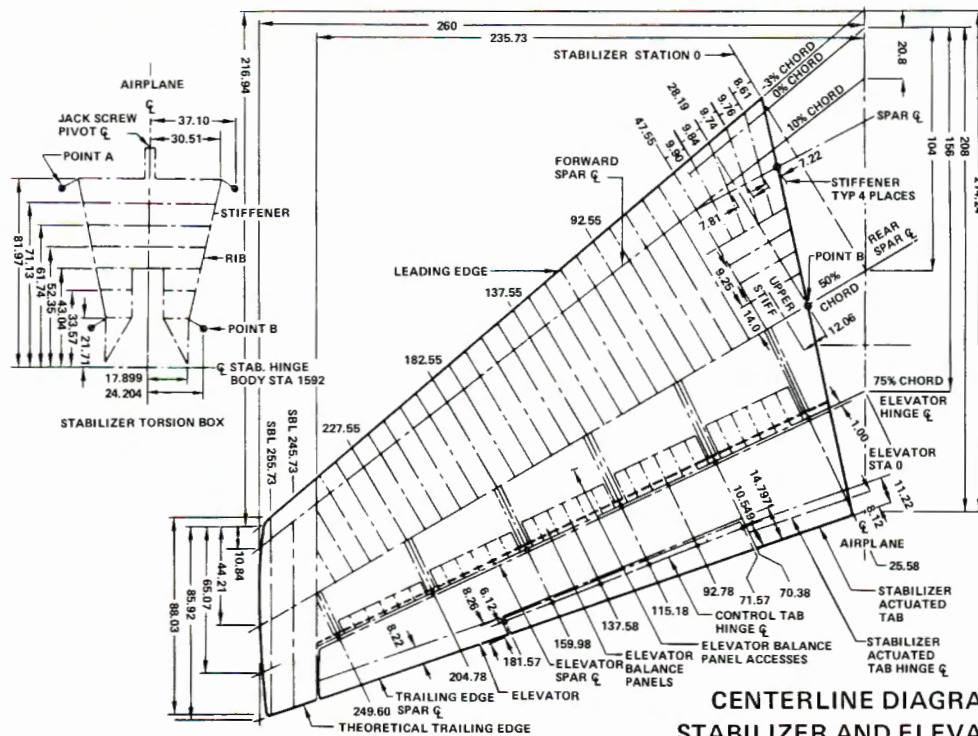


Figure 1 is a plan view of the stabilizer torsion box. It shows the following dimensions and components:

- Overall Dimensions:**
  - Top width: 37.446
  - Top width (inner): 30.511
  - Left height: 81.963
  - Left height (inner): 71.13
  - Bottom height (left side): 61.74
  - Bottom height (right side): 62.35
  - Bottom height (inner): 43.04
  - Bottom height (inner, right): 21.708
  - Right width (inner): 17.899
  - Right width (outer): 24.403
  - Bottom width (left): 1.50
- Components and Labels:**
  - AIRPLANE
  - JACK SCREW PIVOT  $\phi$
  - STIFFENER
  - RIB
  - STAB. BODY  $\phi$
  - POINT A
  - POINT B
  - STABILIZER TORSION BOX



14



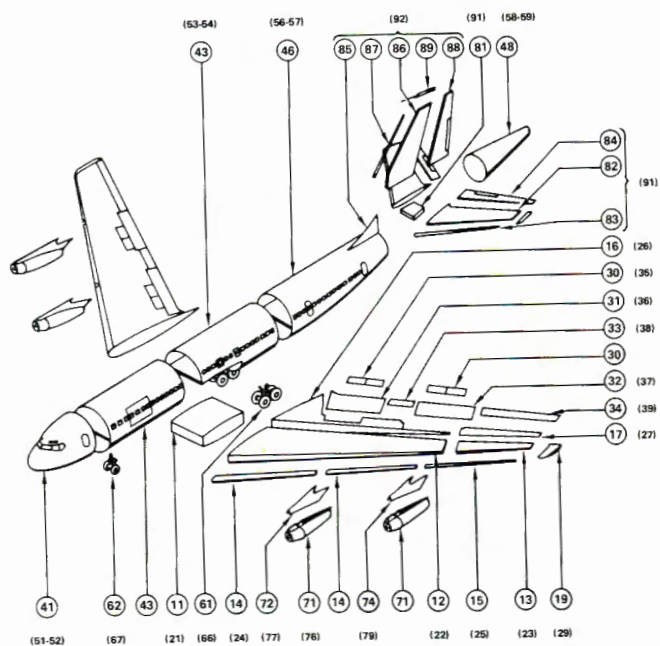
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# STRUCTURE ASSEMBLY

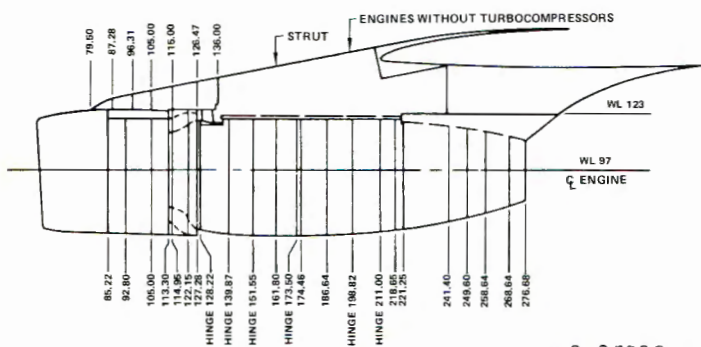
## SECTION

- 11—STUB
- 12—INBOARD WING
- 13—OUTBOARD WING
- 14—INBOARD WING—LEADING EDGE
- 15—OUTBOARD WING—LEADING EDGE
- 16—INBOARD WING—TRAILING EDGE
- 17—OUTBOARD WING—TRAILING EDGE
- 19—WING TIP
- 30—SPOILERS
- 31—INBOARD FLAPS
- 32—OUTBOARD FLAPS
- 33—INBOARD AILERON
- 34—OUTBOARD AILERON
- 41—FIRST BODY SECTION
- 43—FWD—SECOND BODY SECTION
- 43—AFT—THIRD BODY SECTION
- 46—FOURTH BODY SECTION
- 48—FIFTH BODY SECTION
- 61—MAIN LANDING GEAR
- 62—NOSE LANDING GEAR
- 71—POWER PACKS
- 72—INBOARD STRUT
- 74—OUTBOARD STRUT
- 81—TORQUE BOX
- 82—HORIZONTAL STABILIZER
- 83—HORIZONTAL STABILIZER—LEADING EDGE
- 84—ELEVATORS
- 85—DORSAL FIN
- 86—VERTICAL FIN
- 87—VERTICAL FIN—LEADING EDGE
- 88—RUDDER
- 89—VERTICAL FIN—TIP

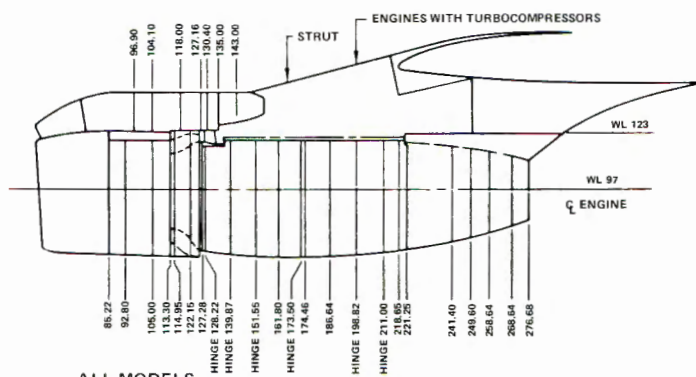
( ) NON-STRUCTURAL SECTIONS



ALL MODELS  
SECTIONAL BREAKDOWN

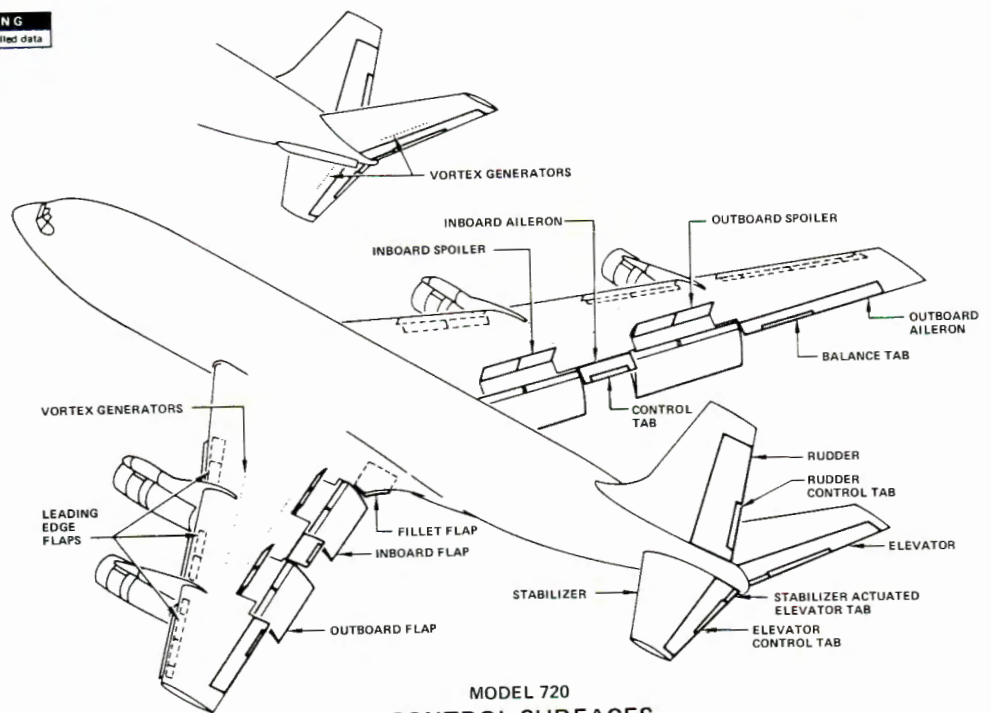


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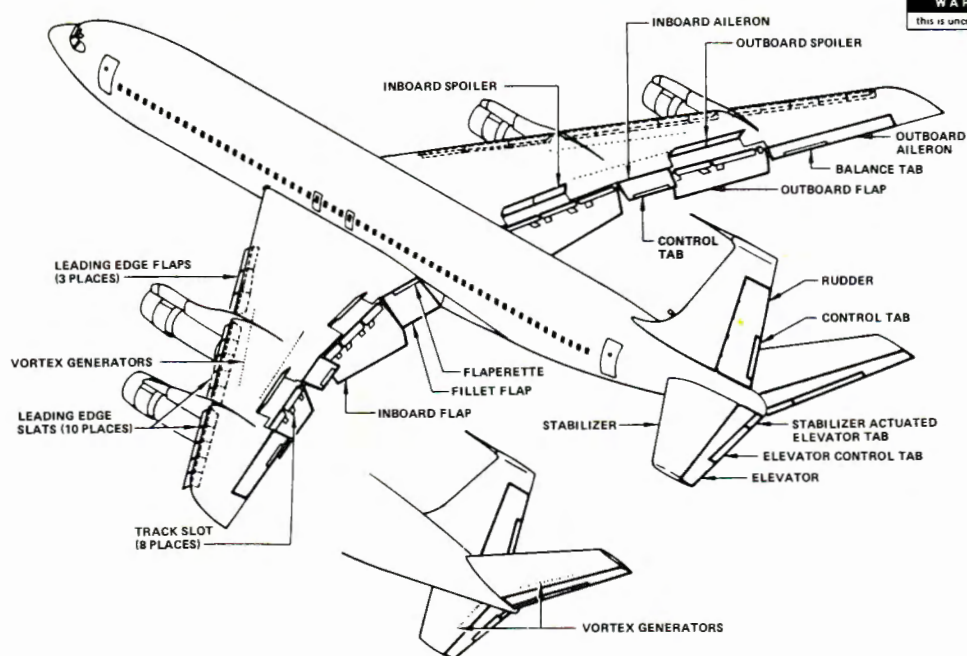
ALL MODELS  
NACELLE AND STRUT STATION DIAGRAM

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MODEL 720  
CONTROL SURFACES

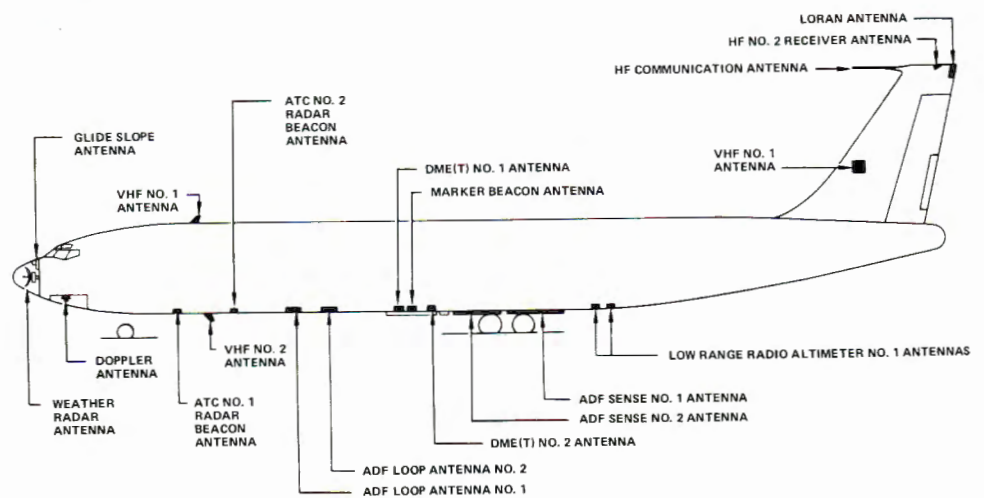




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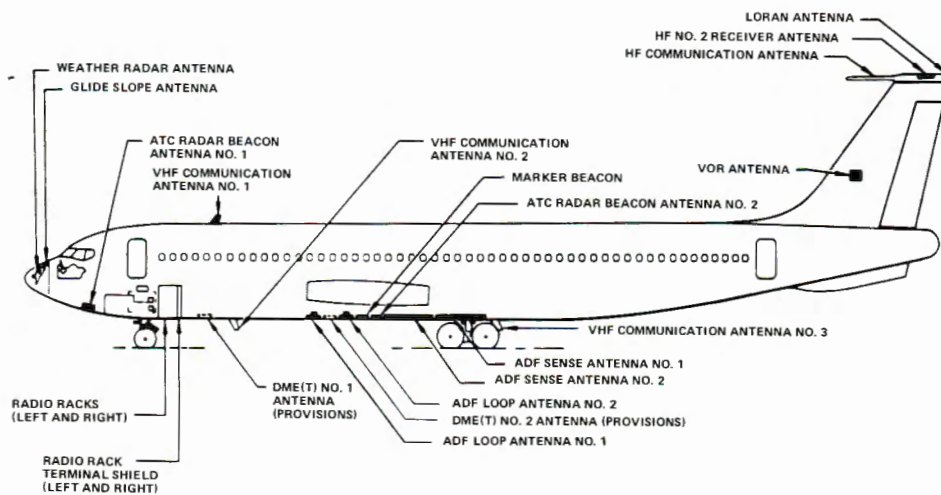
MODEL 707  
CONTROL SURFACES

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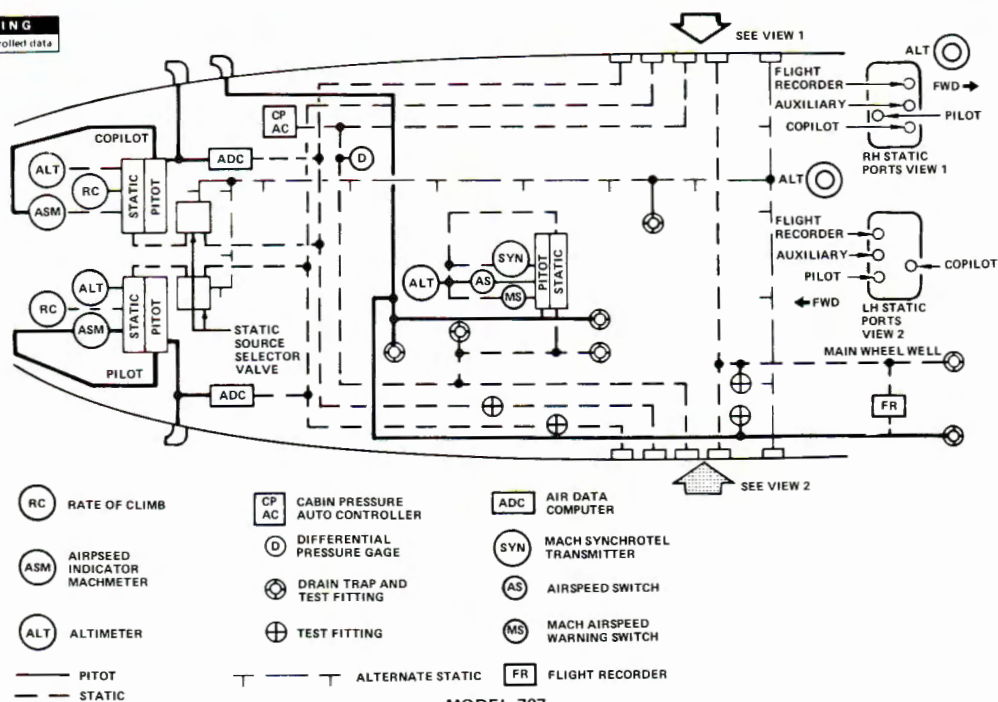
MODEL 707  
ANTENNA LOCATIONS

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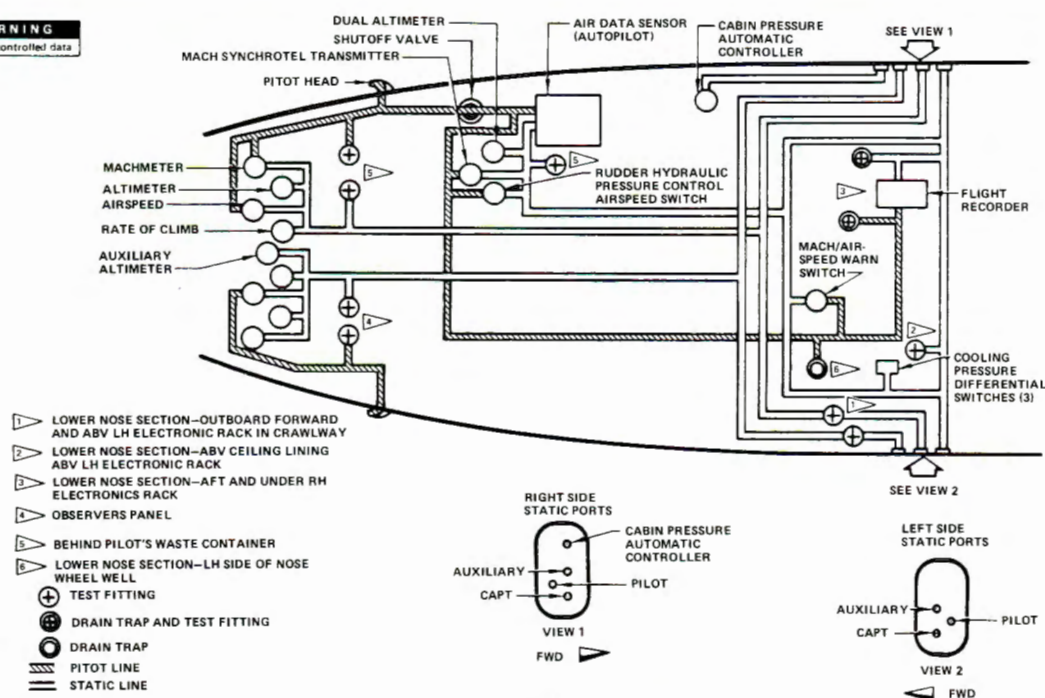
MODEL 720  
ANTENNA LOCATIONS

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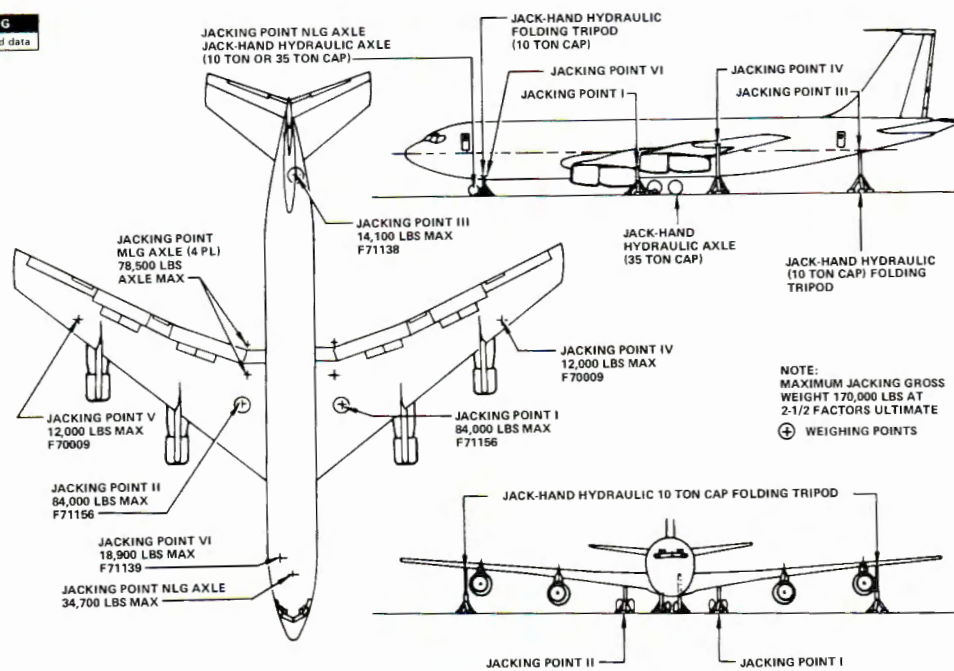
MODEL 707  
PITOT STATIC SYSTEM

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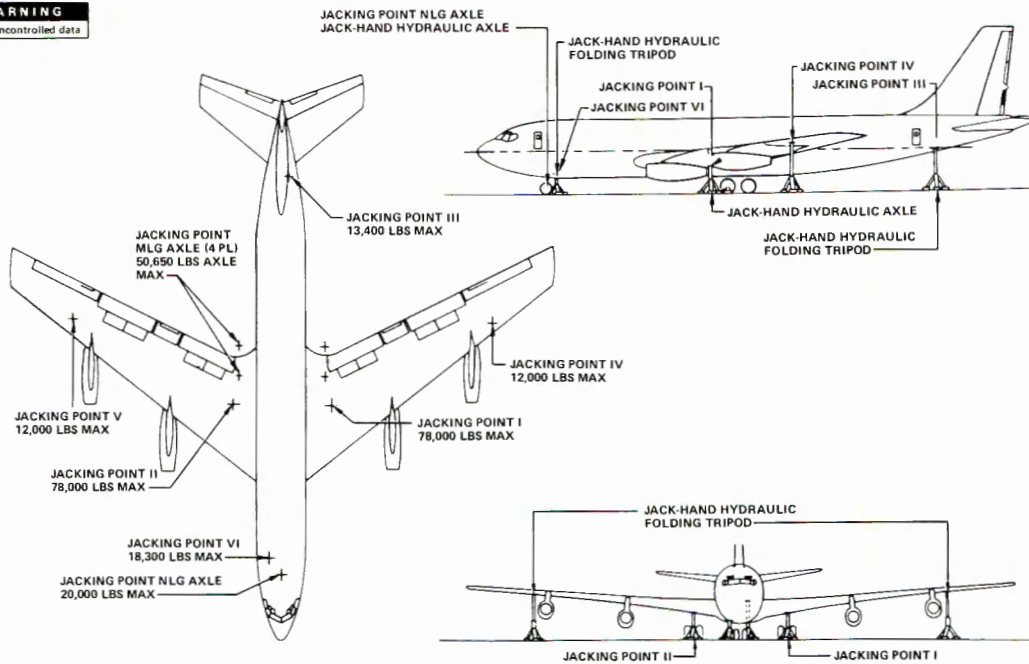
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PITOT STATIC SYSTEM

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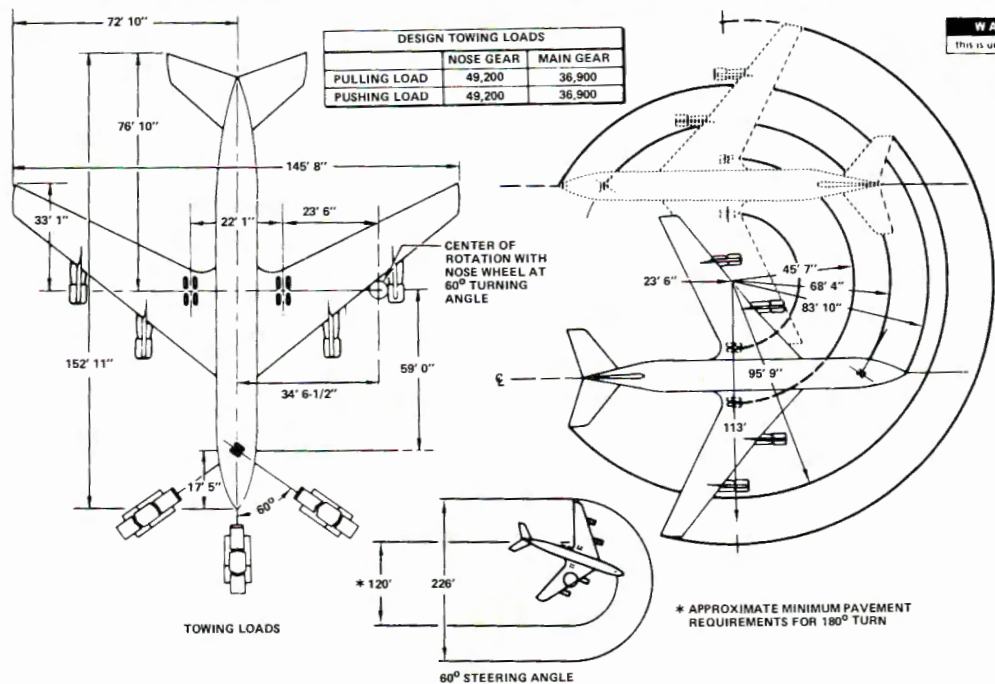
MODEL 707  
JACKING DIAGRAM

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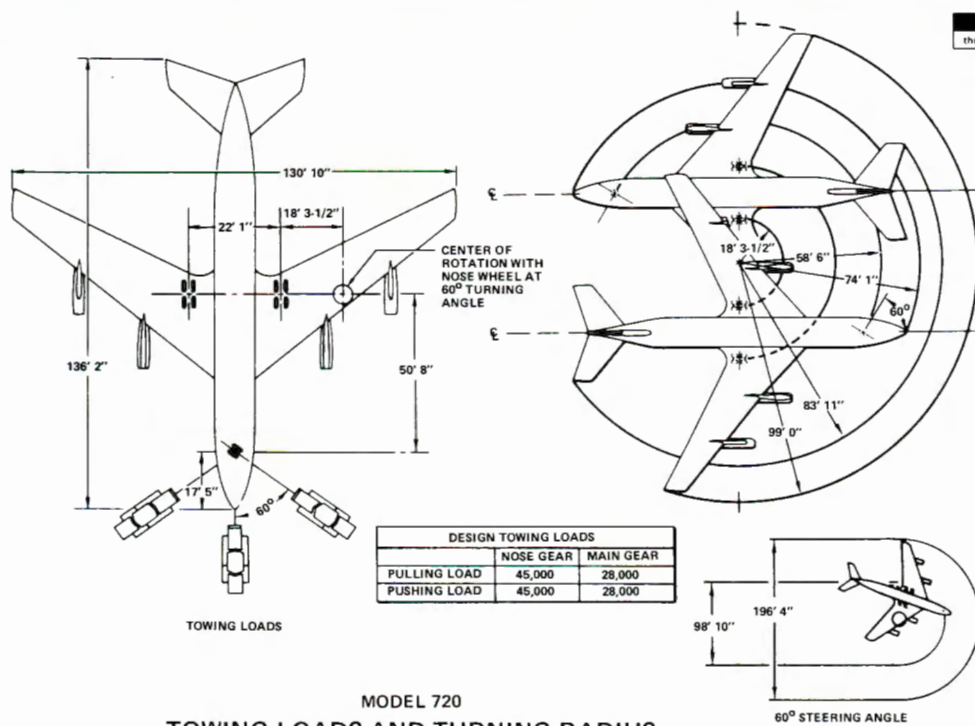
MODEL 720  
JACKING DIAGRAM



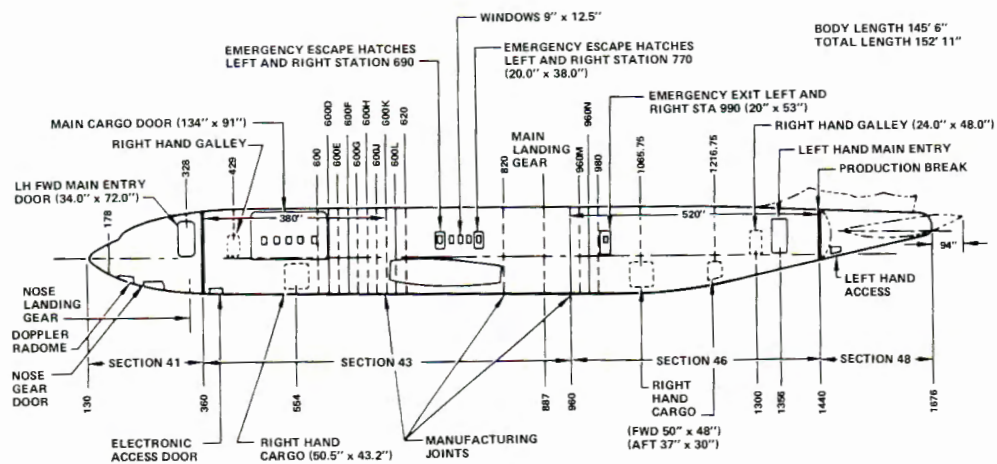


MODEL 707

# TOWING LOADS AND TURNING RADIUS

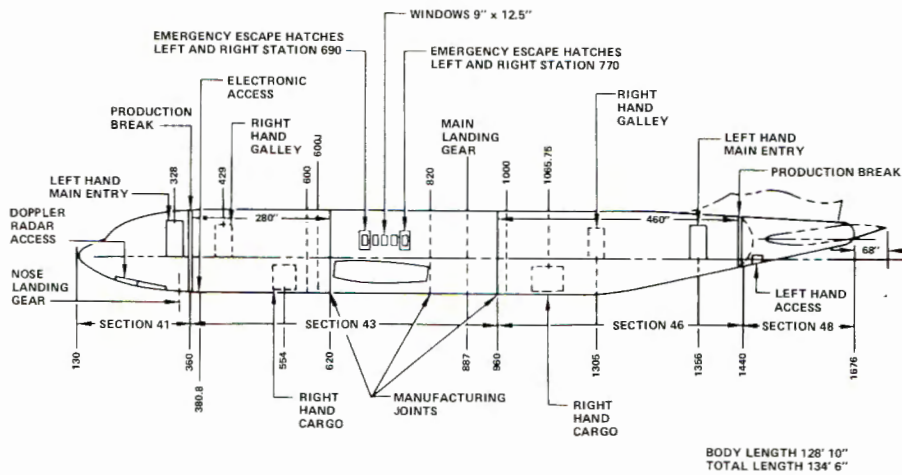


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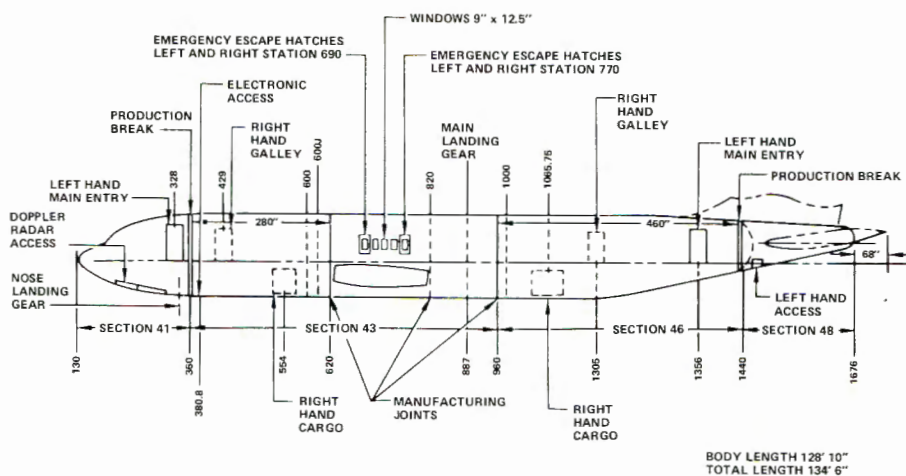
MODEL 707  
WINDOWS, DOORS, AND BODY LENGTH

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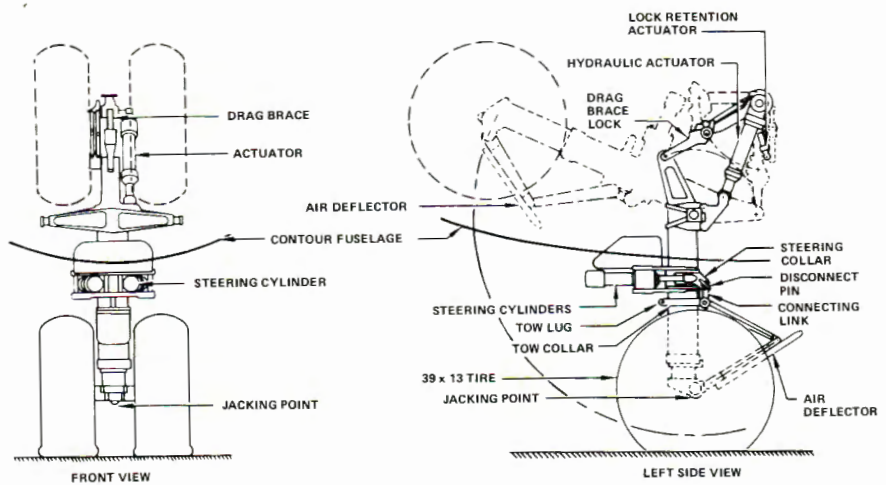
MODEL 720  
WINDOWS, DOORS, AND BODY LENGTH

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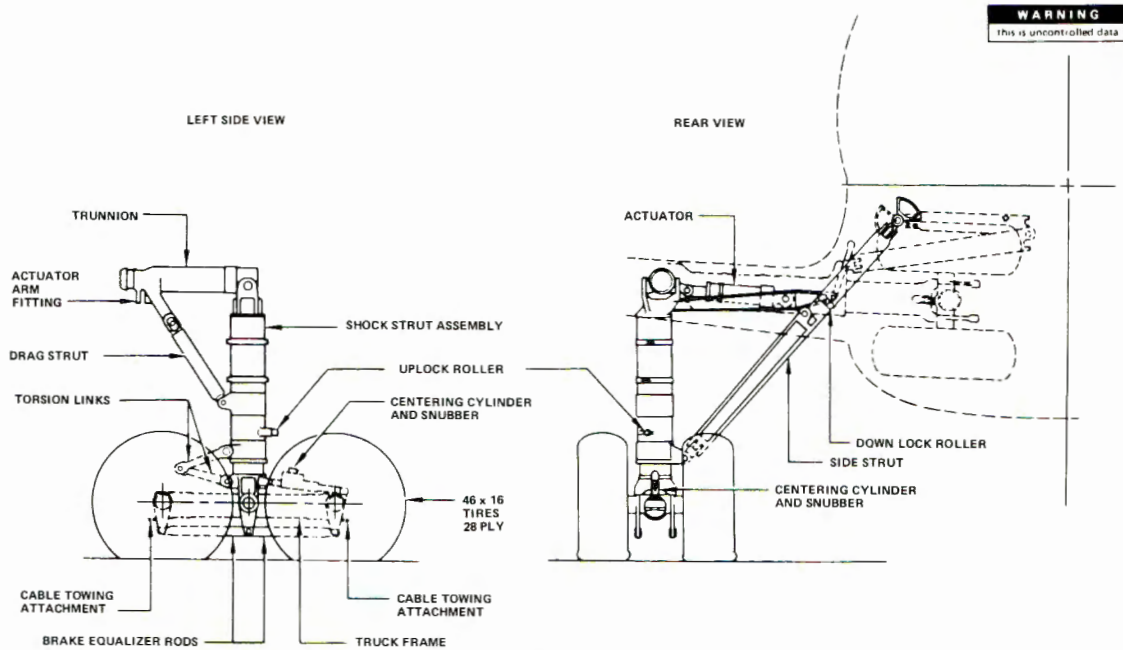


MODEL 720  
WINDOWS, DOORS, AND BODY LENGTH

**WARNING**  
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ALL MODELS  
NOSE GEAR

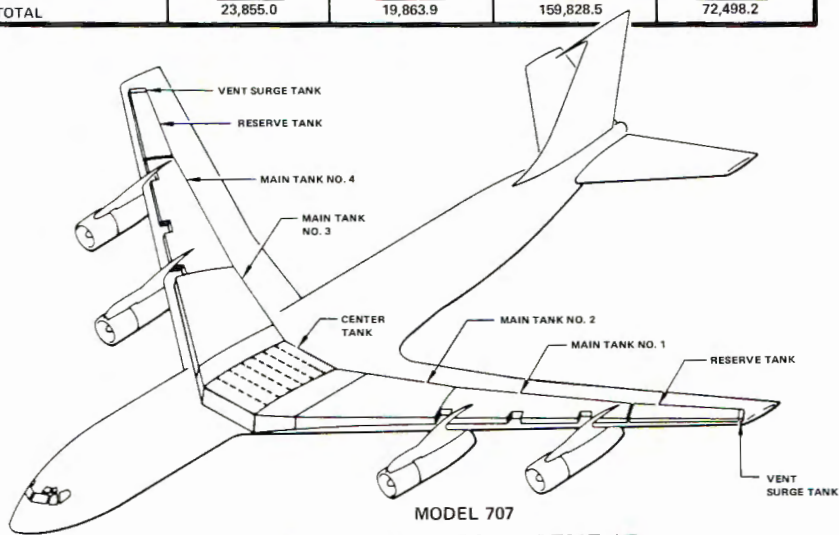


ALL MODELS  
MAIN LANDING GEAR

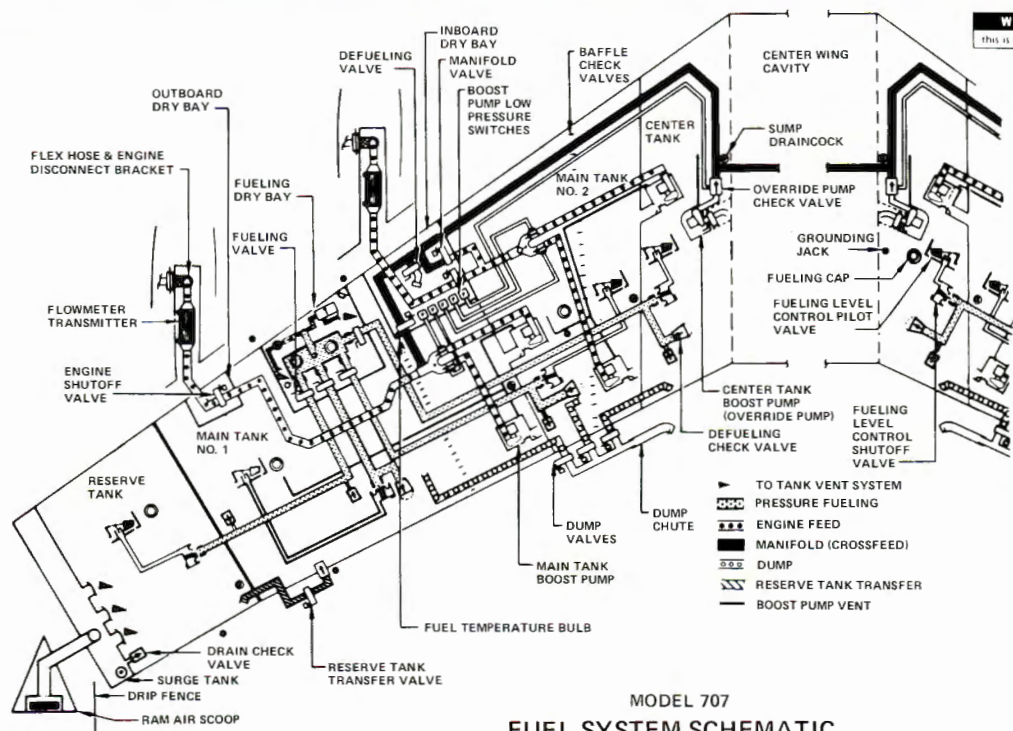


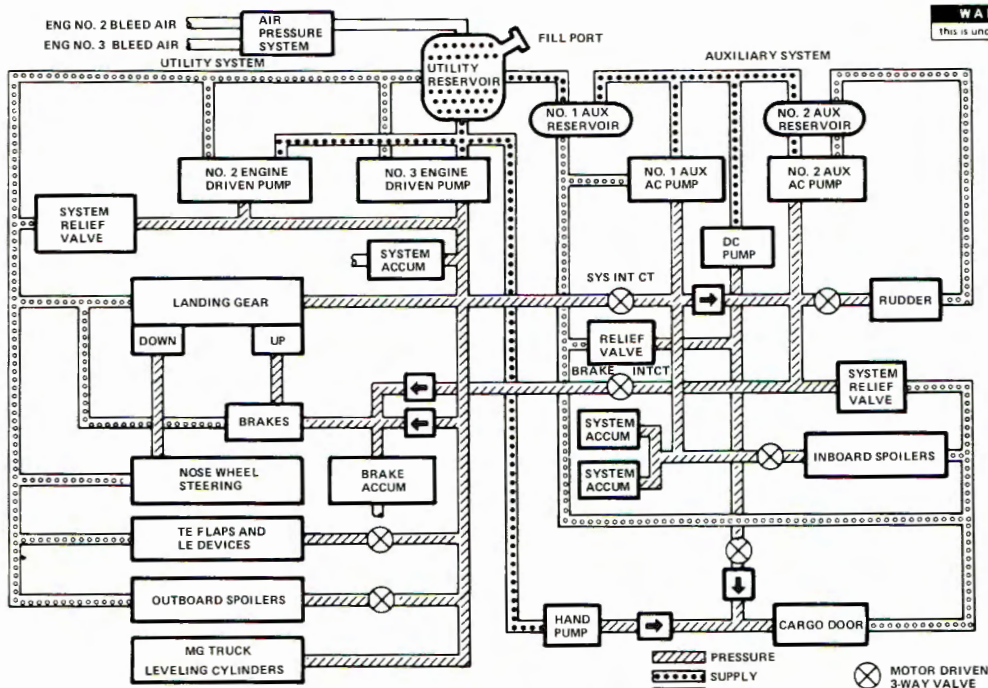
USABLE FUEL CAPACITIES				
TANK	U.S. GALLONS	IMP. GALLONS	POUNDS	KILOGRAMS
RESERVE NO. 1	439.0	365.5	2,941.3	1,334.2
MAIN NO. 1	2,323.0	1,934.4	15,564.1	7,059.9
MAIN NO. 2	4,069.0	3,388.2	27,262.3	12,366.2
CENTER (7 CELL)	10,193.0	8,487.7	68,293.1	30,977.7
MAIN NO. 3	4,069.0	3,388.2	27,262.3	12,366.2
MAIN NO. 4	2,323.0	1,934.4	15,564.1	7,059.9
RESERVE NO. 4	439.0	365.5	2,941.3	1,334.2
TOTAL	23,855.0	19,863.9	159,828.5	72,498.2

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MODEL 707  
FUEL TANK ARRANGEMENT



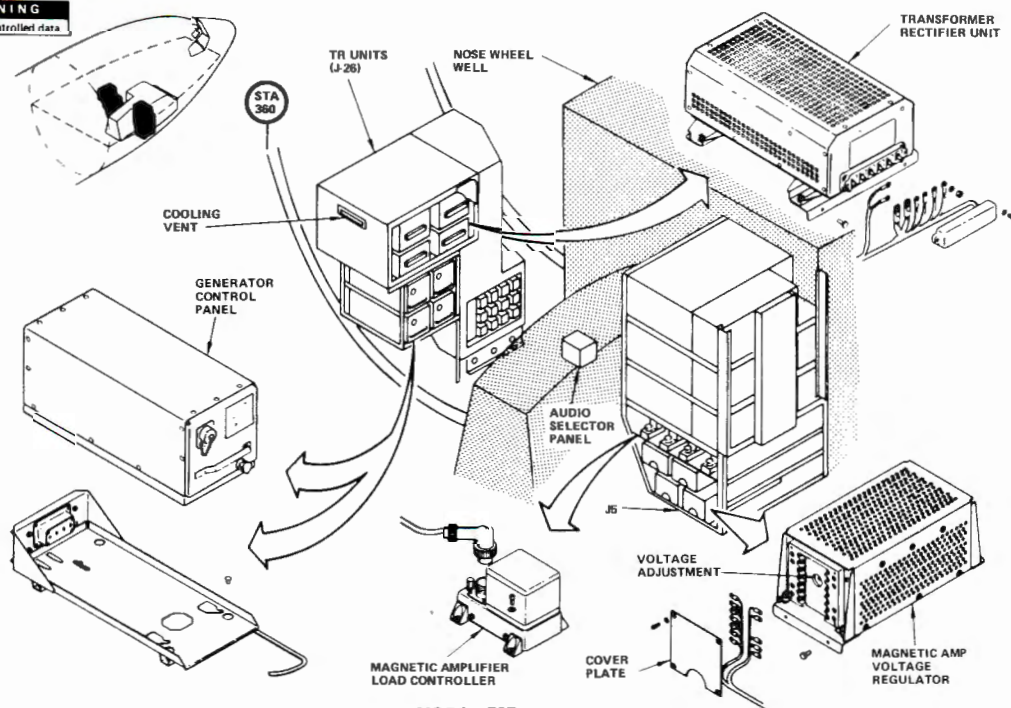


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MODEL 707

# HYDRAULIC SYSTEM SCHEMATIC

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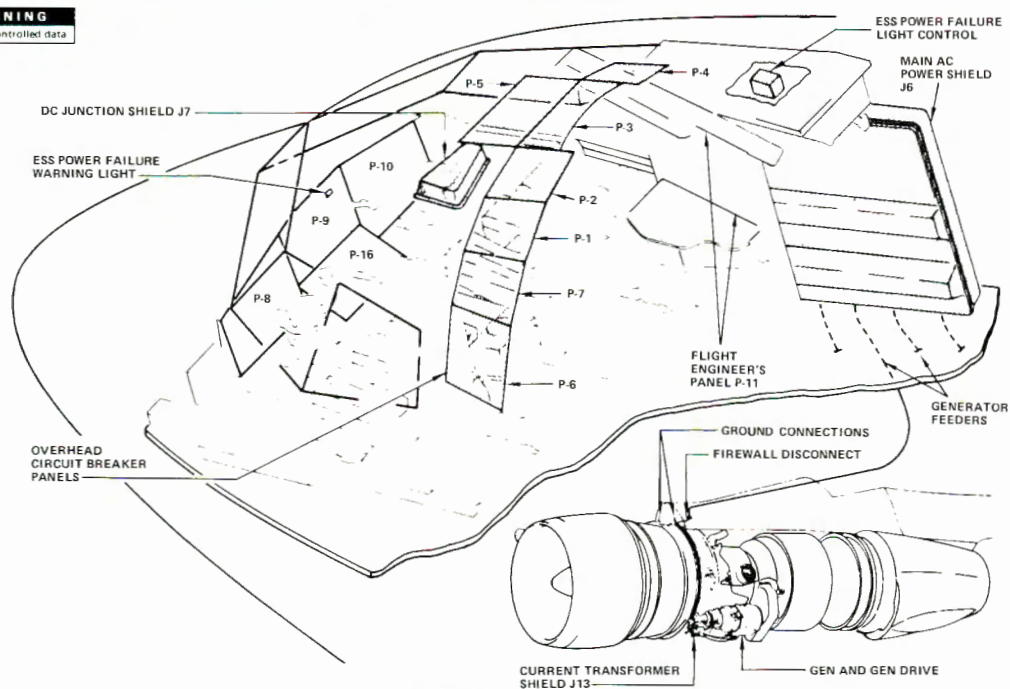
**MODEL 707  
ELECTRICAL EQUIPMENT INSTALLATION**

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### CONTROL CABIN PANEL LOCATION

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ALL MODELS  
ELECTRICAL POWER EQUIPMENT LOCATION— UPPER SECTION 41 AND ENGINE

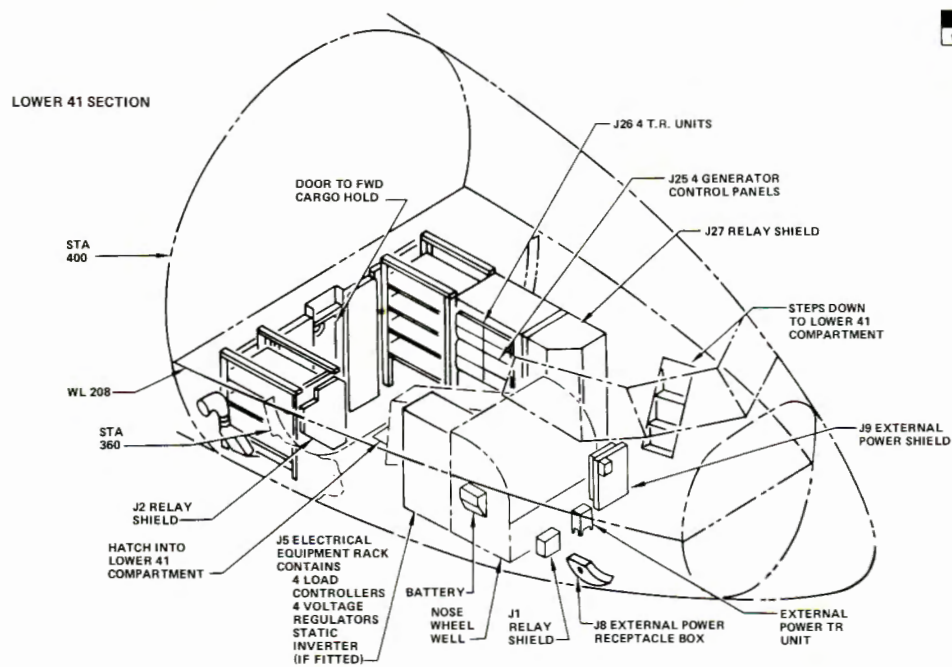




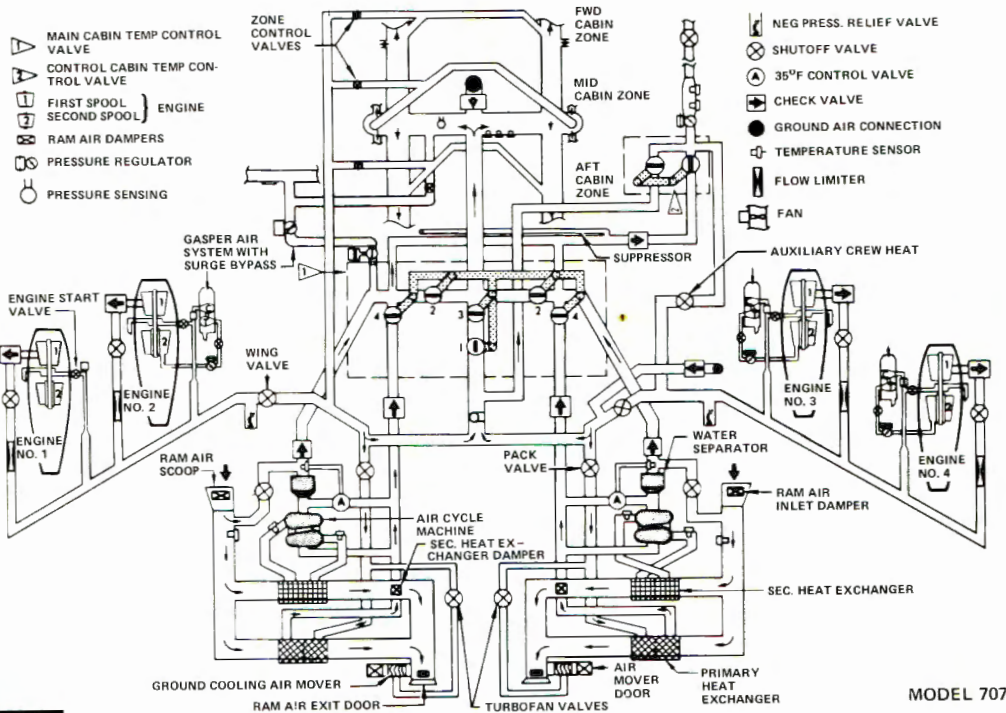
## 38



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MODEL 707  
ELECTRICAL POWER EQUIPMENT LOCATIONS

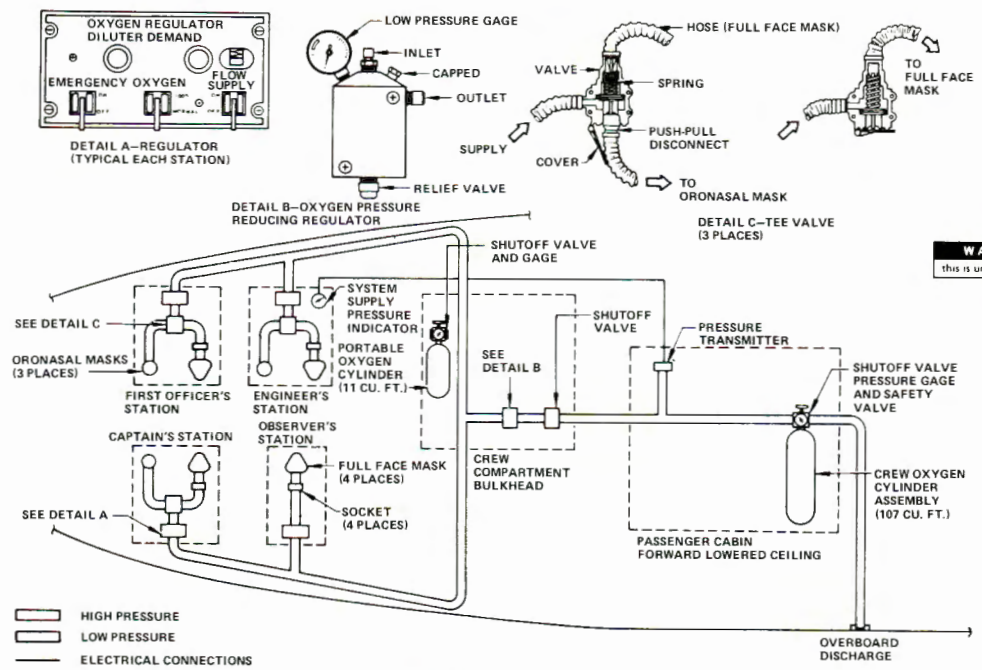


**AIR CYCLE AIR CONDITIONING SYSTEM SCHEMATIC**

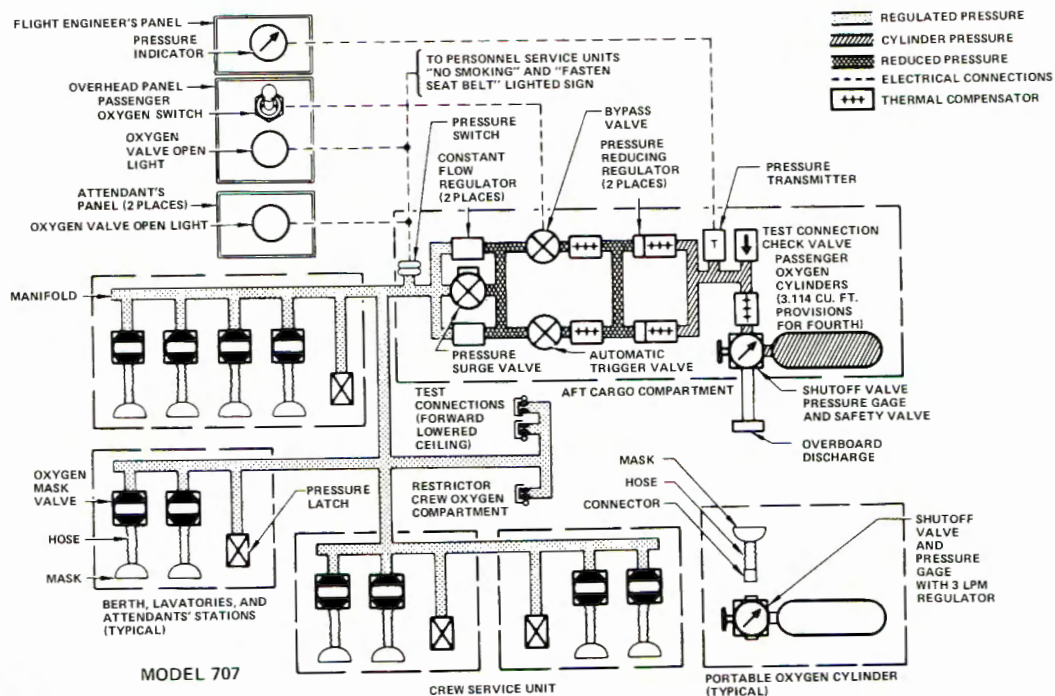
MODEL 707

**WARNING**

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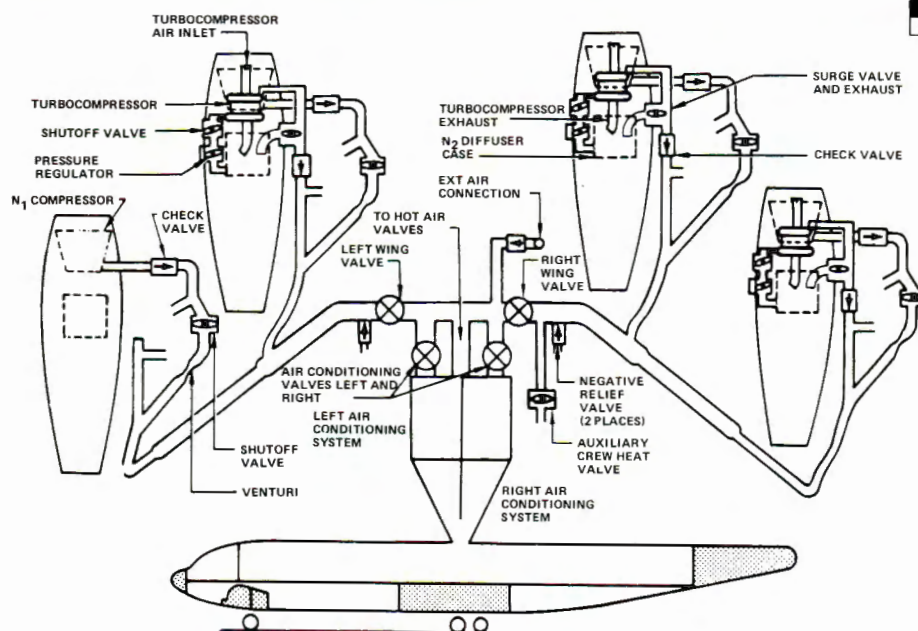


MODEL 707  
FLIGHT CREW OXYGEN SYSTEM



PASSENGER OXYGEN SYSTEM SCHEMATIC

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MODEL 707  
PNEUMATIC DISTRIBUTION

## ABBREVIATIONS

ADCN ADVANCE DRAWING  
CHANGE NOTICE  
ADF AUTOMATIC DIRECTION  
FINDER  
AL ALUMINUM  
ALT ALTITUDE  
ALTM ALTITUDE  
AN AIR FORCE-NAVY  
STANDARDS  
AND AIR FORCE AND NAVY  
DESIGN STANDARDS  
ANT ANTENNA  
A/P AIRPLANE  
APU AUXILIARY POWER UNIT  
ASSY ASSEMBLY  
AUX AUXILIARY  
B/A BUNDLE ASSEMBLY  
BAC THE BOEING COMPANY  
STANDARD  
BBL BODY BUTTOCK LINE  
BFE BUYER FURNISHED  
EQUIPMENT  
BL BUTTOCK LINE  
B/L BLUE LINE  
BLKD BULKHEAD  
BMS BOEING MATERIAL  
SPECIFICATIONS  
B/OUT BREAKOUT  
CFA COMBINATION FABRICATION  
AND ASSEMBLY  
CL CENTERLINE  
CONN CONNECTOR  
COORD COORDINATE OR  
COORDINATION  
CORR CORROSION  
CRES CORROSION RESISTANT  
STEEL  
CRS COLD ROLLED STEEL  
CSK COUNTERSINK  
CSTG CASTING  
C/T COMMON TO  
CTR CENTER  
JCM THIRD CREWMAN  
DCN DRAWING CHANGE  
NOTICE  
DDA DRAWING DEPARTMENT  
AUTHORIZATION  
DEV DEVIATION  
DIA DIAMETER  
DISC DISCONNECT  
DME DISTANCE MEASURING  
EQUIPMENT  
DWG DRAWING  
ECP ENGINEERING CHANGE  
PROPOSAL  
EFF EFFECTIVITY  
ELEC ELECTRICAL

ELEX ELECTRONIC  
ELR/ ENGINEERING LIAISON  
ADCN REQUEST/ADVANCE  
DRAWING CHANGE NOTICE  
F/A FINAL ASSEMBLY  
FAA FEDERAL AVIATION  
ADMINISTRATION  
FAB FABRICATION  
F/B FORM BOARD  
FLG FLANGE  
F/O FIRST OFFICER  
F/S FULL-SIZE  
F/T FITTING  
FTG FITTING  
FWD FORWARD  
GEN GENERATOR  
GRD GROUND (ELECTRICAL)  
H/T HEAT TREAT  
H/U HOOK UP  
HYD HYDRAULIC  
ID INSIDE DIAMETER  
IDENT IDENTIFICATION,  
IDENTIFY  
IML INSIDE MOLD LINE  
INBD INBOARD  
INPH INTERPHONE  
INSP INSPECTION  
INSTL INSTALLATION  
INSTR INSTRUMENT  
INTCHG INTERCHANGEABLE  
J/BOX JUNCTION BOX  
JPR JUMPER (WIRING)  
KSI THOUSAND POUNDS PER  
SQUARE INCH  
LE LEADING EDGE  
LH LEFT HAND  
LOC LOCATING, LOCATE,  
LOCATION  
LWR LOWER  
L/O LAYOUT  
M/P MACHINE PLANNING  
M/B METAL BOND  
MAX MAXIMUM  
MC MASTER CHANGE  
MCD MASTER CONTROL  
DRAWING  
MCR MASTER CHANGE RECORD,  
MASTER CHG. REQUEST  
MDI MASTER DIMENSIONING  
INDEX  
MFG MANUFACTURING  
MIL MILITARY SPECIFICATIONS  
MIN MINIMUM  
MOA MAKE ON ASSEMBLY  
MOD MODIFICATION, MODEL  
MTD MANUFACTURING  
TECHNICAL DIRECTIVE  
MTG MOUNTING  
N/C NUMERICAL CONTROL

N/P NUT PLATE  
NAS NATIONAL AIRCRAFT  
STANDARDS  
NT NO TOOL (TOOL CODE)  
O/S OVERSIZE  
O&IR OPERATION AND INSPECTION  
RECORD  
OD OUTSIDE DIAMETER  
OML OUTSIDE MOLD LINE  
OPP OPPOSITE  
OUTBD OUTBOARD  
OVHT OVERHEAT  
OXY OXYGEN  
PCA PARTS CONTROL AREA  
PCM PHOTO CONTACT MASTER  
PED PRODUCTION ENGINEERING  
DOCUMENT  
PI PRODUCTION ILLUSTRATION  
PLAC PLACARD  
P/N PART NUMBER  
PNEU PNEUMATIC  
POA PURCHASED ON ASSEMBLY  
POP PURCHASED OUTSIDE  
PRODUCTION  
POS POSITION  
PRR PRODUCTION REVISION  
RECORD  
PS PART STORE  
PSI POUNDS PER SQUARE  
INCH  
PSIG POUNDS PER SQUARE  
INCH GAGE  
PSU PASSENGER SERVICE UNIT  
PURCH PURCHASE  
PWR POWER  
QTY QUANTITY  
RCVR RECEIVER  
RCVR/ RECEIVER  
XMTR TRANSMITTER  
REF REFERENCE  
REG REGULATOR  
REPL REPLACEABLE  
REPT REFERENCE PHOTO  
TEMPLATE  
RH RIGHT HAND  
RIV RIVET  
RIV RESISTANCE  
RES RESIDENT SHOP CONTROL  
RUB RUBBER (STAMP)  
STRN STRAIGHTEN  
SEC SECTION  
SW SWITCH  
STAN STANCHION  
S/F SPOT FACE  
S/N SERIAL NUMBER  
SDS SHOP DISTRIBUTION  
STANDARDS  
SEQ SEQUENCE  
SHT SHEET

SPEC SPECIFICATION  
SRF SPECIAL CHEMICAL AND  
SOLVENT RESISTANT  
FINISH  
STA STATION  
STD STANDARD  
STIFF STIFFENER  
STL STEEL  
STP STAMP  
STR STRINGER  
SUPT SUPPORT  
SPKR SPEAKER  
SHLD SHIELD  
SPL SPLICE  
SYM SYMMETRICAL  
TE TRAILING EDGE  
T/H TOOL HOLE  
THRU THROUGH  
TAI THERMAL ANTI-ICE  
T/S TERMINAL STRIP  
U/O USED ON  
UA UNIT ASSEMBLY  
UB UNIT BOND  
UI UNIT ISSUE  
UM UNIT MANUFACTURE  
UPR UPPER  
UT UNIT TIME  
UHF ULTRA HIGH FREQUENCY  
VERT VERTICAL  
VOL VOLUME  
VHF VERY HIGH FREQUENCY  
VOR VHF OMNI RANGE  
W/B WIRE BUNDLE  
WS WING STATION  
WBL WING BUTTOCK LINE  
WCP WING CHORD PLANE  
WL WATER LINE  
WTR WATER  
XMTR TRANSMITTER  
XFMR TRANSFORMER  
ZN ZONE  
  
IDENTIFICATION CODES  
BLOCKS  
FB FORM BLOCK  
HB HYDROPRESS BLOCK  
RB ROUTER BOARD  
SB SPINNING BLOCK  
STB STRETCH BLOCK  
WAFB WATER FORM BLOCK  
DIES  
BD BLANKING DIE  
BFD BLANK AND FORM DIE  
BPDF BLANK, PIERCE AND  
FORM DIE



CFD CUTOFF AND FORM DIE  
CND COINING DIE  
COD CUTOFF DIE  
CPD CUTOFF AND PIERCE  
DIE  
CPFD CUTOFF, PIERCE AND  
FORM DIE  
DD DINKING DIE  
ORD DRAW DIE  
FD FORM DIE  
HBF HD HYDRAULIC BULGE  
FORM DIE  
HD HAMMER DIE  
HSP HYDRO SHEAR PLATE  
JD JOGGLE DIE  
MD MOLD DIE  
ND NOTCHING DIE  
PBD PIERCE BLANK DIE  
PD PIERCE DIE  
PFD PIERCE AND FORM DIE  
PRP PRESS PLATE  
PTD PUSH THRU DIE  
SD SHAVING DIE  
SLD SLOTTING DIE  
SRD STEEL RULE DIE  
SWD SWAGING DIE  
TD TRIMMING DIE  
TFD "T" CODED FD  
TJD "T" CODED JD

#### FIXTURES

BF BROACHING FIXTURE  
BOF BORING FIXTURE  
CF CHECKING FIXTURE  
DF DRILL FIXTURE  
ECF ENVELOPE CHECK FIXTURE  
GF GRINDING FIXTURE  
GGF GEAR GRINDING FIXTURE  
GHF GEAR HOBGING FIXTURE  
GSF GEAR SHAVING FIXTURE  
GSHF GEAR SHAPING FIXTURE  
GTF GEAR TESTING FIXTURE  
HMF HAND ROUTER FIXTURE  
HTF HEAT TREAT FIXTURE  
ICF INTERFACE CHECK FIXTURE  
LF LATHE FIXTURE  
MF MILL FIXTURE  
PFF PREFORM FIXTURE  
RF ROUTER FIXTURE  
SF SAW FIXTURE  
SHF SHAPER FIXTURE  
SPF SHOT PEENING FIXTURE  
THF THREADING FIXTURE  
JIGS

AJ ASSEMBLY JIG  
DJ DRILL JIG  
LJ LOCATING JIG

RJ RIVETING JIG  
RWJ RESISTANCE WELD JIG  
TJ TRIM JIG  
TSJ TEST JIG  
WJ WELD JIG

#### MASTER TOOLING

FG FACILITY GAGE  
MCG MASTER CONTROL GAGE  
MDG MASTER DRILL GAGE  
MG MASTER GAGE  
MM MASTER MODEL  
MTT MASTER TOOLING  
TEMPLATE  
SDG SECONDARY DRILL GAGE  
SEG SECONDARY GAGE

#### MECHANICAL EQUIPMENT

FME FLOOR MOUNTED EQUIPMENT  
ME MECHANICAL EQUIPMENT  
OHME OVERHEAD EQUIPMENT  
PME PORTABLE MECH. EQUIPMENT  
SME SHIPPING MECH. EQUIPMENT  
TME TRANSPORTATION MECH.  
EQUIPMENT

#### MISCELLANEOUS

AM ASSEMBLY MODEL  
CB CORE BOX  
DFT DESIGNED FACILITY TOOL  
DM DRAW AND BENDING  
MANDREL  
DT DRILL TOOL  
FCT FORM CUTTING TOOL  
FR FORMING ROLL  
LM LAYUP MANDREL  
MA MACHINE EQUIPMENT  
MC MILL CUTTER  
MIT MISCELLANEOUS TOOL  
MOLD MOLD  
OT OPTICAL TOOL  
PAT PATTERN  
PM PART MODEL  
PRE PROTECTIVE EQUIPMENT  
RIT RIVETING TOOL  
SP SAMPLE PART  
ST STANDARD TOOL  
STE SPECIAL TEST EQUIPMENT  
TB TEST BENCH  
TE TEST EQUIPMENT  
TH TEST HARNESS  
TSB TOOL SUB BASE  
TST "T" CODED STANDARD  
TOOL  
UT UTILITY TOOL  
VFM VACUUM FORMING MOLD  
WFB WIRE FORM BOARD

#### TEMPLATES

ATT APPLY TRIM TEMPLATE  
BSST APPLYING STOCK SIZE  
TEMPLATE  
CAM CAM TEMPLATE  
CMT CHEM-MILL TEMPLATE  
CST CROSS SECTION TEMPLATE  
CT CONTOUR TEMPLATE  
DBT DEVELOPED BLANK  
TEMPLATE  
DCT DIE CONSTRUCTION  
TEMPLATE  
DLT DEVELOPED LAYOUT  
TEMPLATE  
FBT FORM BLOCK TEMPLATE  
HCT HOLE CHECKING TEMP.  
HLT HOLE LOCATING TEMP.  
JDT JIG DRILL TEMPLATE  
PATT PLASTIC APPLY TRIM  
TEMPLATE  
PFT PROFILE TEMPLATE  
RDT ROUTER DRILL TEMP.  
RLT REFERENCE LAYOUT  
TEMPLATE  
SPT SAMPLE PART TEMPLATE  
SUT SETUP TEMPLATE

#### CODED TOOLING INFO

MCD MASTER CONTROL  
DRAWING  
PI PRODUCTION ILLUSTRATION  
PS PROCESS SHEET  
REPT REFERENCE PHOTO  
TEMPLATE  
TMLO TOOLING MASTER LAYOUT

#### PREFIXES

B METAL BONDING TOOLS  
(ASSY TOOLS ONLY)  
E DEVELOPMENT (RESEARCH)  
TOOLS  
F FLOOR MOUNTED TOOLS  
K ANY TOOLS ON WHICH  
KIRKSITE IS USED  
P PERISHABLE TOOLS (DT, FCT,  
MC CODES ONLY)  
NC NUMERICALLY CONTROLLED  
TOOLS  
(SI) SHRINK SCALE TOOL FOR  
17-7 CRCS, RENE 41, ETC.  
SY PERIODIC PROOF-LOAD  
TEST-WICHITA ME SLINGS  
Q QUALITY CONTROL DEVELOP-  
MENT TOOLS  
X TOOLS THAT ARE OF AN  
EXPERIMENTAL CATEGORY